

# Preparing 'paper minds' for electronic records

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## SUMMARY

The introduction of ICT brings about crucial changes for the archival profession. At first, archivists were convinced, that the introduction of computers in business administration would not influence their traditional activities. When it was considered a matter of concern, it was believed to be primarily a question of preservation. Only recently, archivists have come to realise that ICT is indeed challenging the very foundation of the profession – concepts, methods and techniques – and that, if they want to survive, they have to change their very behaviour. In what way the digital revolution is challenging professional behaviour is briefly demonstrated in three major areas: description, appraisal and management.

This growing awareness of the importance of the digital revolution reflects itself in the way the archival profession has responded. At first, there were individual archivists who acquainted themselves with the new soft- and hardware. In a later stage, courses were organised by archives schools and professional bodies to teach archivists how to catalogue what digital records were produced in government bodies and how to organise their secure transfer to archival institutions over time. Since the 90's some archives schools have started to experiment with courses that were not devoted to practical guidelines but were designed to discuss the conceptual issues involved.

The growing awareness of the need for training on a more fundamental level – and the didactic difficulties that were experienced by archival teachers on this matter – have only recently resulted in what can be called a 'third generation' of course development: course development by international co-operation. The internationalisation of communication, facilitated by e-mail and the Internet, and the sheer magnitude of the issues involved in designing courses have given birth to educational projects in which several European institutions are joining. One project that looks very promising, the E-term project, is presented as a case in point.

**KEY WORDS:** Electronic Records, Context, Metadata, Professional Training

## INTRODUCTION

The rapid victory march of ICT (information - and communication technology), especially in the last two decades, has profoundly changed the way people communicate and conduct their affairs. The millennium-hype may serve as a sufficiently telling indicator of how deeply the computer has come to affect society at all its levels in general, but everyone who has recently experienced the crashing of the server where his e-mail is located realises how overwhelmingly dependent he has become on technological infrastructures.

Archivists - in striking contrast with, for example, librarians - were notably slow in ascertaining the impact this development could have on their professional work. As recently as 1996 there were still archivist – at least in the Netherlands – who argued that the change was no more or less influential than the introduction of the typewriter and/or the telephone!

By that time, however, it was clear to a growing majority of the archivists that the digital revolution would sooner or later affect their professional activities.

Characteristically, most archivists responded to this challenge in a very practical way: if only they had sufficient hands-on experience with software like Wordstar and Dbase (not to mention the almost prehistoric Apple-applications) they would have enough knowledge to overcome the difficulties raised by electronic documents. Some even sought the solution in acquiring skills in programming languages like Pascal or C++. I deliberately mention these products because they have either progressed in version – from 1 to 4 to a Windows version 5 to 10 – or because they have in the meantime vanished silently from the marketplace.... For it is this awareness which created a second level of concern: Digital Preservation.

Generally speaking, archivists do not consider preservation as their main interest. They regard it as a specialism, requiring specific technical knowledge (chemistry, physics) and therefore mainly trust it to paraprofessionals. In the case of electronic records, however, the problems were obvious to everyone concerned: how was a document to be read in the future if the software which had created it had upgraded to a non-compatible version? At the same time, alarming information about the carriers contributed to this concern: how long will the recorded data remain securely on the disk? Where will we find a computer with a 5 1/4 floppy disk drive? As was to be expected, the solutions were generally very practical: print the documents and put them in a file as usual (1).

It took some time for the archival profession to realise that this practical approach, although it created some sort of solutions, remained however within the boundaries of a paper environment and that the nature of electronic records required the reconceptualisation of archival theory. Slowly but undeniably, archivists are becoming aware that the digitalisation of society fundamentally affects not only their professional activities but even their attitude and behaviour. Terry Cook, formerly with the National Archives of Canada and now at the University of Manitoba, has very aptly described this in an interesting article entitled “Electronic records, paper minds” (2).

Compared to the actual “etat de questions” and to the vast field covered by Terry Cook, my contribution will be limited but at the same time rather ambitious. Firstly, I will summarise which competencies a traditional archivist – in Cook’s phrasing: a “paper mind” - most notably should master to tackle problems in a digital environment. Secondly, I will present a project in which a team of co-operating European institutions, among which the University of Oporto, is struggling to find a way to overcome these deficiencies and to mould paper minds into electronic behaviour.

### **CHARACTERISTICS (3)**

If we abstract from practical problems like the longevity of electronic records, what are the changes which profoundly affect the archival discipline?

Perhaps the most important change concerns the true nature of the record itself. In a digital environment the record is not a physical object anymore, it is a virtual artefact created by ordering a computer to start a series of procedures through which the document is eventually created on the monitor. Throughout the twentieth century, archivists have become increasingly aware of the necessity to distinguish between the physical and the logical approach to archives. The digital environment forces even the most traditional archivists to accept this distinction. In this environment the record apparently does not reveal its nature from intrinsic characteristics but from procedures in the background, hidden within its technological context.

This makes archivists aware of the need for a behavioural change, that is: a shift from a passive to a pro-active attitude. In practical terms this means the need to break down the traditional walls in archival management. In most countries archives management has been organised according to the notion of the “life-cycle”. Current records are handled by records managers who are functioning within records-creating agencies and therefore, presumably, are especially looking after the interests of these agencies. In due time, records lose their relevance to the organisation, which results in their being handed over to the archivist *stricto sensu*; his concern is not the records-creating agency but the preservation of ‘cultural heritage’ for future generations, for posterity...

Given what has been said about the changing nature of records this archivist cannot sit and wait anymore until ‘his’ records arrive at the office but he has to expand his activities into the area of the current records to assure that not only the records will be handed over but that the contextual information is transferred as well.

Moreover, this contextual information has to be of such quality, that it enables future researchers not only to 'recreate' the records required – i.e.: start the technological procedures – but also to have sufficient clues as to the authenticity of these documents. The fact that archivists have become increasingly active in the discussion on metadata is a reassuring sign (4).

A second consequence has been the shifting of the archivists' attention from the records itself to a more detailed insight into the provenancial context. In a general sense, this may not sound as strikingly new: during the last century archivists have grown accustomed to the habit of presenting a general picture of the records-creating organisation, if only in the introduction to their inventory (catalogue). Several developments – like the documentary flood generated by modern bureaucracy on the one hand and the continuous waves of reorganisation on the other – already increasingly pressed the need for a more refined insight into the relation between records and their creating agencies. The virtual nature of digital records forces archivists to go into the very detail of work- or businessprocesses in order to establish or maintain those contextual elements that are of paramount importance to ascertain the quality of archival records, like their authenticity, integrity etc.

This notion of the archivists' shift from the records themselves to their context, their 'surroundings', will be demonstrated by focusing on three major archival activities.

The first one to mention is description, core business of the classical archivist. The traditional notion of archival description is static: description is the representation of a collection of documents of a given records creator that has been transferred to an archival repository - representation meaning: the representation of the physical form of the documents, their status within the organisation (generally more specific: the tasks of the organisation) and their interrelation. The authenticity of the individual records is hardly questionable because it presents itself physically, through the structure of the document and through its relation with other documents. In a digital environment this is not self-evident anymore. Therefore, several research-projects have aimed at defining what metadata are required to guarantee 'business acceptable communication' (5). This almost naturally forces archival description to give attention to a more basic contextual level: the workprocess which gave rise to the document and the way workprocesses are interrelated. As Cunningham has pointed out, this will undeniably lead to 'dynamic descriptions' (6).

The *second* activity is the actual management of the records. Paper records can be stored, be forgotten for a period of years and then be rediscovered and read again. The developments in the ICT-sector take place with breathtaking speed. The necessity to maintain the integrity of the records asks for standards, but until now standards have proved unable to keep the pace of technological renewal. Even ISO-standards are unable to comply with this situation: it takes years of discussion to reach them - only to find out, that there are no products on the market available to implement them. In this situation one of the prime activities of the archivist - keeping of and guarding over the original documents - becomes practically impossible. New possibilities emerge, like conversion and emulation, but it still is far from clear how to uphold the essential qualities of the original records.

The *third* activity which I want to single out is particularly revealing for the shift in the archivists' activities: appraisal. In a paper environment, classic archivists can still easily defend the necessity of the appraisal of individual records, even if the huge documentary output of modern records creators makes this practically or physically impossible. In a digital environment, where the individual records themselves are already more logical than physical, there are hardly any arguments left to defend classical ways of appraisal. It cannot be a surprise that in a situation where the identity of the record is not so much laying in its content as well as in its context, appraisal will become context-oriented appraisal: which functions within the records-creating organisation can be expected to produce information most valuable to future generations?

It will be obvious, that within the scope of this contribution I can only make some general observations on the recent developments affecting archival activities throughout the world. Everybody with an interest in the subject is aware that there is a vast and still expanding amount of literature on these topics.. Nevertheless, it will have sufficed to point to the essential competencies needed by modern archivists: Archivists will have to change their focus from a predominantly descriptive approach to a *functional* approach; Consequently, they have to change their attention from the records themselves to the environment, the *context*, that created these documents

Thirdly, archivists have to reconsider seriously what essentially constitutes the *quality* of the records under their protection and how this quality is to be upheld for future research

Most important of all, archivists have to realise that it is no longer acceptable to wait for things to come: if archivists want to continue to receive good records, archivists have to present themselves very prominently in the stage where records are created – or better still: in the stage where the record-keeping system is implemented.

## **CREATING ELECTRONIC MINDS (7)**

In 1993, in the special issue of the *American Archivist* on "educating the archivist of the information age", two conclusions were drawn:

1. The future viability of our profession rests with our ability to address the needs of those whom we serve and the electronic records that they create and employ, and
2. The archival profession has not yet dealt adequately with educating archivists to manage automated techniques and, especially, electronic records.

What was applicable to archival training in 1993 is still *grosso modo* valid in 2001: the archival profession did not yet find the final solution for training archivists to manage electronic records. But when we compare the 1993 level of training and education in electronic records in Europe with the level of 2001, we cannot escape from noticing a tremendous progress. In 1993 electronic records were almost exclusively dealt with in a few short courses and seminars. Preservation was the focusing issue; appraisal was the problem of how archival services could rescue the few electronic files they considered to be valuable. During the last years we can observe that everywhere in Europe course creators were searching for ways and solutions to redesign their courses along the lines described above.

The slow pace of the development of courses on electronic records has to do with several didactical problems that teachers are having to face.

In the first place, theory and methodology concerning electronic records are still in its infancy. A lot of theoretical and methodological problems have not been solved. The archival profession does not agree yet upon what might be the most appropriate way of appraising multidimensional and multimedia documents or e-mail records. Even terminology is still under discussion. Archivists speak arbitrarily in machine-readable, digital or electronic terms. Appraisal guidelines for electronic records are still in the formative stage. Generally speaking it is agreed upon that the appraisal of electronic records should follow similar basic principles as the appraisal of any other records, but when it comes to particularities no guidance has been given so far.

A second didactical problem is about teaching methods and teaching aids. Doing practical appraisal exercises, which is a popular teaching method in teaching paper records appraisal, is not a realistic option yet. Presentations and excursions are easier to organise. Private companies or research institutes are requested to present their electronic systems in the classroom or participants are requested to go out and visit these organisations. This is, however, pretty time-consuming business, and the focus on the specific subject is often blurred by attention paid to other aspects. In several courses experimenting with the presentation of examples of good and bad practice in case studies has started. Cases are most helpful to give participants a practical understanding of theories, methods and strategies in different organisational contexts. Unfortunately, appropriate cases are relatively scarce.

Only recently, archivists in specific countries have realised that they were all struggling to (re)invent their own national wheel. This has, finally, led to international co-operation which has resulted in several interesting projects. The remaining of this contribution will be devoted to one particularly promising project: the E-term-project.

## **A EUROPEAN PROJECT**

The Netherlands Archives School developed a course on electronic records about five years ago, in the format of a 5 days seminar cycle. In June 18, 1997 at the European Expert's Meeting on Electronic Records in The Hague, the follow-up meeting of the DLM-forum, the development of a European course on the management of electronic records for archivists and records managers jointly was broadly discussed.

At the end of the session ICA's Section on Archival Education and Training presented a very positive evaluation of the two courses presented earlier that day, the course of the Dutch Archiefschool and a course

developed by the Archivschule Marburg. Since the Marburg course was primarily aimed at archivists and the Dutch course on archivists and records managers jointly, the participants agreed that the Dutch course would serve as a model for the European course to be developed.

Stimulated by Hans Hofmann, archivist of the European Commission and the driving force behind DLM, the Archives School invited in spring 1999 colleague institutions from various European countries. All participants agreed upon the need for a training course, including appropriate teaching materials.

As a result an application was sent to Brussels for a Leonardo grant, which at the end was granted.

The consortium of participants consists now of: University College London, the University of Northumbria at Newcastle, the Ufficio centrale per i beni archivistici (Italy), the Fachhochschule Potsdam (Germany), the University of Tampere (Finland), and the University of Porto (Portugal); the Netherlands Archives School is currently leading the project.

The project, which will terminate by December 2001, will eventually produce a curriculum, together with a full, and fully tested set of training materials: texts (theory), cases (application), terminology, and assignments. The original Netherlands curriculum has served as a starting point but has by now been modified and expanded.

Instead of the original 5 days there have been designed 5 modules, which will provide with more flexibility according to local needs.

Optionally the 5 modules can be preceded by an introductory module: introduction to information technology for archivists and records managers (and administrators), introduction to archival theory and practice for ICT people and administrators, and an introduction to administration for archivists, records managers and ICT staff.

In the proper course each of the modules deals with one particular theme:

- the impact of ICT on organisations,
- recordkeeping systems,
- legal and organisational perspectives,
- implementation issues, and
- strategies and policies.

For each of the themes meaningful texts are sought and commented and assignments written. One 'master case' will be used to elucidate the theory, in such a way that the participants should be able to adapt the lessons learned in their daily work. Smaller cases will demonstrate particular subjects, like e-mail.

As noted before, one particular difficulty in understanding the rich emerging literature on electronic recordkeeping is the ambiguity in terminology. This is becoming even more apparent in a multi-lingual environment. Therefore, a multi-lingual terminology, clarifying concepts across borders, will be an important and substantial product of the project.

The distinct parts of the project are assigned as work packages to the partners in the consortium: London and Newcastle concentrate on texts and cases, Potsdam and Italy take the terminology, Tampere and Porto signed in for the testing, but contribute to the other workpackages as well. Amsterdam is responsible for project management, and uses the curriculum as a principle instrument for it.

The whole course will be delivered within a framework of an electronic learning environment. Those training institutes that wish to operate distant learning can use it as such; those institutes, on the other hand, which prefer traditional class room teaching can use the same framework. Combinations of the two teaching strategies are of course possible as well.

In fact, early after the start of the project, the consortium has decided to use – as an experiment - a particular electronic learning environment for the development of the project. For several reasons, among which its worldwide dissemination, and service facilities, Blackboard has been chosen. Although not created for the development of courses, this platform appears to be very useful to the activities of the consortium. Electronic learning environments are created to use the advantages of modern ICT to the full: they function within an Internet-environment and possess facilities for e-mail, discussion boards, community-communication and even online teaching. This makes it a very efficient environment for designing courses where international co-operation is at hand.

## CONCLUSION

It took some time for the archival profession to realise how great an impact the digital revolution would have on their activities. Since the 90's archivists are gradually becoming aware that it is not only technical or practical issues that will have to be dealt with, but that the fundamentals of their profession are being shaken. Some leading archivists are indeed referring to the developments as paradigmatic change.

In that case, it is no longer enough to train archivists in practical skills; there is a need for courses which more fundamentally discuss the changing of the position of the archivists, his concepts and methods. This is a very ambitious goal, especially, because of the uncertainties which normally accompany a paradigm shift, but also because good teaching methods and materials are scarce.

For a long time, international co-operation in archival education was limited because of the differences in national traditions and cultures. Now, at last, archivists from different European countries are working together and have become to use the possibilities of ICT itself to develop courses that will train archivists in handling electronic records. Is this a sign that even the archival world will become a global village?

## NOTES

- (1) I am fully aware that – for the sake of the argument of this contribution - I am not paying due tribute to the importance of digital preservation and to the impressive contributions by e.g. Charles Dollar and Jeff Rothenburg over the last years; see for instance Jeff Rothenberg, 'Avoiding Technological Quicksand', [www.clir.org/pubs/reports/rothenberg](http://www.clir.org/pubs/reports/rothenberg) and Maggie Exon, 'Long-Term Management Issues in the Preservation of Electronic Information', [www.nla.gov.au/niac/meetings/npo95me.html](http://www.nla.gov.au/niac/meetings/npo95me.html)
- (2) T. Cook, Electronic Records, Paper minds: the revolution in information management and archives in the post-custodial and post-modern era, in *Archives and Manuscripts* 22 (1995) 300-328.
- (3) This paragraph benefits heavily from this discussions with – and an article by Hans Hofman in the first Yearbook of the Royal Dutch Archival Association: Hans Hofman, De digitale archivaris: een nieuwe wereld, in P.J. Horsman e.a. eds. *Naar een nieuw paradigma in de archivistiek*, The Hague 1999 (ISBN 90-71251-16-0), 211-225.
- (4) See, for instance, the activities of the Records Continuum Research Group at Monash University (Australia) at <http://www.sims.monash.edu.au/rcrg>.
- (5) The coining of the term should go to the Pittsburgh-project (<http://www.lis.pitt.edu/~nhprc/>), but comparable initiatives are to be found at the University of British Columbia (see <http://www.interpares.org/UBCProject/>) and in Australia (at the records management research group mentioned before).
- (6) See A. Cunningham, Dynamic Descriptions: Australian strategies for the intellectual control of records and recordkeeping systems, in P.J. Horsman e.a. eds. *Naar een nieuw paradigma in de archivistiek*, The Hague 1999 (ISBN 90-71251-16-0), 133-145.